AMENDMENTS TO THE CLAIMS

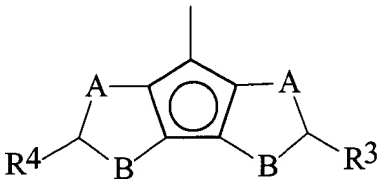
1. (currently amended) A metallocene compound of general formula (I):

LGZMXp (I)

wherein

L is a divalent group bridging the moieties G and Z, selected from CR^1R^2, SiR^1R^2 or $(CR^1R^2)_2$, wherein R^1 and R^2, which may be the same as or different from each other, are hydrogen, a C_1-C_{20}-alkyl, C_3-C_{20}-cycloalkyl, C_2-C_{20}-alkenyl, C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl, or C_7-C_{20}-arylalkyl radical, optionally containing a heteroatom, which can form a ring having 3 to 8 atoms optionally bearing a substituent;

Z is a moiety of formula (II):



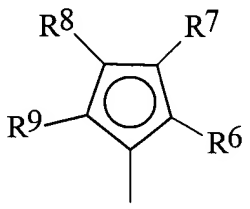
(II)

wherein

R^3 and R^4, which may be the same as or different from each other, are hydrogen, a C_1-C_{20}-alkyl, C_3-C_{20}-cycloalkyl, C_2-C_{20}-alkenyl, C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl, or C_7-C_{20}-arylalkyl radical, optionally containing a heteroatom;

A and B are sulfur (S), oxygen (O) or CR^5, wherein R^5 is hydrogen, a C_1-C_{20}-alkyl, C_3-C_{20}-cycloalkyl, C_2-C_{20}-alkenyl, C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl, or C_7-C_{20}-arylalkyl radical, optionally containing a heteroatom with the proviso that if A is S or O, then B is CR^5 or if B is S or O, then A is CR^5, and wherein either A or B is different than CR^5 and the rings containing A and B have a double bond in ~~the~~an allowed position;

G is a moiety of formula (III):



(III)

wherein

R^6, R^7, R^8 and R^9, which may be the same as or different from each other, are selected from hydrogen, a C_1-C_{20}-alkyl, C_3-C_{20}-cycloalkyl, C_2-C_{20}-alkenyl, C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl, or C_7-C_{20}-arylalkyl radical, optionally containing heteroatoms belonging to groups 13-17 of the Periodic Table of the Elements, and at least one of substituent pairs R^6 and R^7, and R^8 and R^9 can form a ring comprising from 3 to 8 atoms, optionally bearing substituents, with the proviso that R^7 is different from R^8 and when R^7 is a tert-butyl radical, R^8 is not hydrogen;

M is an atom of a transition metal selected from those belonging to group 3, 4, 5, 6 or to the lanthanide or actinide groups in the Periodic Table of the Elements,

X, which may be the same or different, is a hydrogen atom, halogen atom, a group R^{10}, OR^{10}, OSO_2CF_3, $OCOR^{10}$, SR^{10}, NR^{10}_2 or PR^{10}_2, wherein the substituents R^{10} are hydrogen, a C_1-C_{20}-alkyl, C_3-C_{20}-cycloalkyl, C_2-C_{20}-alkenyl, C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl, or C_7-C_{20}-arylalkyl radical, optionally containing heteroatoms;

p is an integer of from 1 to 3, being equal to the oxidation state of the metal M minus 2;

with the proviso that said metallocene compound is different from:

isopropylidene (3-trimethylsilylcyclopentadienyl)(7-cyclopentaditiophene)zirconium dichloride, dimethylsilanediyl (3-trimethylsilylcyclopentadienyl)(7-cyclopentaditiophene)zirconium dichloride, isopropylidene (3-ethylcyclopentadienyl)(7-cyclopentaditiophene)zirconium dichloride, dimethylsilanediyl (3-ethylcyclopentadienyl)(7-cyclopentaditiophene)zirconium dichloride, isopropylidene (3-n-butylcyclopentadienyl)(7-cyclopentaditiophene)zirconium dichloride, dimethylsilanediyl (3-n-butylcyclopentadienyl)(7-cyclopentaditiophene)zirconium dichloride, isopropylidene (3-methylcyclopentadienyl)(7-cyclopentaditiophene)zirconium dichloride, dimethylsilanediyl (3-methylcyclopentadienyl)(7-cyclopentaditiophene)zirconium dichloride, isopropylidene (3-i-propylcyclopentadienyl)(7-cyclopentaditiophene)zirconium dichloride and dimethylsilanediyl (3-i-propylcyclopentadienyl)(7-cyclopentaditiophene)zirconium dichloride.

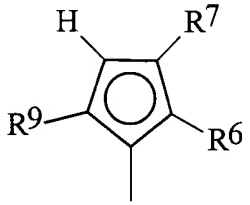
2. (previously presented) The metallocene according to claim 1, wherein the transition metal M is selected from titanium, zirconium or hafnium.

3. (previously presented) The metallocene according to claim 1, wherein L is CMe_2 or $SiMe_2$.

4. (previously presented) The metallocene according to claim 1, wherein A or B is a sulfur atom and the other is a CH group.

5. (previously amended) The metallocene according to claim 1, wherein R^3 and R^4 are the same and are a C_1-C_{20}-alkyl group, which can contain a silicon atom.

6. (previously amended) The metallocene according to claim 1, wherein G is a moiety of formula (IIIa):



(IIIa)

wherein

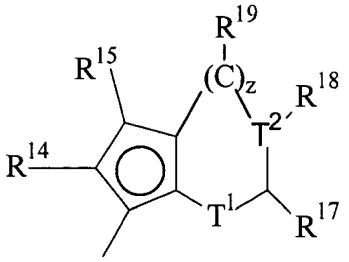
R^6 and R^9 equal to or different from each other, are hydrogen, a C_1-C_{20}-alkyl, C_3-C_{20}-cycloalkyl, C_2-C_{20}-alkenyl, C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl, or C_7-C_{20}-arylalkyl radical, optionally containing heteroatoms belonging to groups 13-17 of the Periodic Table of the Elements;

R^7 is a C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl or a $QR^{11}R^{12}R^{13}$ group, wherein Q is C, Si, or Ge;

R^{11}, R^{12} and R^{13}, which may be the same as or different from each other, are hydrogen, C_1-C_{20}-alkyl, C_3-C_{20}-cycloalkyl, C_2-C_{20}-alkenyl, C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl, or C_7-C_{20}-arylalkyl radicals, optionally containing a heteroatom, with the proviso that when Q is a carbon atom, at least one of R^{11}, R^{12} and R^{13} is a hydrogen atom.

7. (previously presented) The metallocene according to claim 6, wherein R^7 is a phenyl, a $CHR^{11}R^{12}$ or a $SiR^{11}R^{12}R^{13}$ group, wherein R^{11}, R^{12} and R^{13} are hydrogen or C_1-C_{20}-alkyl groups.

8. (previously presented) The metallocene according to claim 1, wherein G is a moiety of formula (IV):



(IV)

wherein

T^1 is a sulfur atom or a CR^{16} group;

T^2 is a carbon atom or a nitrogen atom;

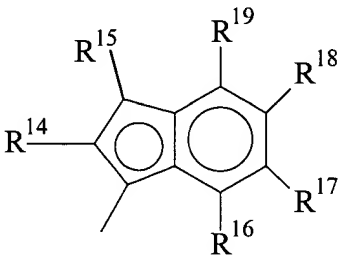
z is 1 or 0;

the ring containing T^1 and T^2 has double bonds in the allowed position;

with the proviso that if z is 1, T^1 is a CR^{16} group and T^2 is a carbon atom and the ring formed is a benzene ring; and if z is 0, T^2 bonds directly the cyclopentadienyl ring, the 5 membered ring formed has double bond in any of the allowed positions having an aromatic character and T^1 and T^2 are not at the same time, a sulfur atom and a nitrogen atom.

R^{14}, R^{15}, R^{16}, R^{17}, R^{18} and R^{19}, same or different, are hydrogen, a C_1-C_{20}-alkyl, C_3-C_{20}-cycloalkyl, C_2-C_{20}-alkenyl, C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl, or C_7-C_{20}-arylalkyl radical, optionally containing heteroatoms belonging to groups 13-17 of the Periodic Table of the Elements, any of two adjacent R^{14}, R^{15}, R^{16}, R^{17}, R^{18} and R^{19} can form a ring comprising 4 to 8 atoms optionally bearing substituents.

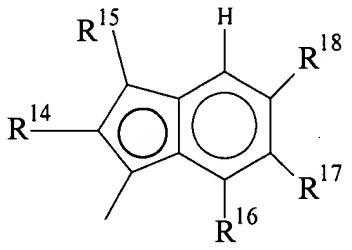
9. (previously presented) The metallocene according to claim 8, wherein G is a moiety of formula (IVa):



(IVa)

wherein R^{14}, R^{15}, R^{16}, R^{17}, R^{18} and R^{19}, which may be the same as or different from each other, are hydrogen, a C_1-C_{20}-alkyl, C_3-C_{20}-cycloalkyl, C_2-C_{20}-alkenyl, C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl, or C_7-C_{20}-arylalkyl radical, optionally containing heteroatoms, and any of two adjacent R^{14}, R^{15}, R^{16}, R^{17}, R^{18} and R^{19} can form a ring comprising 4 to 8 atoms optionally bearing substituents and the benzene ring optionally being perhydrated.

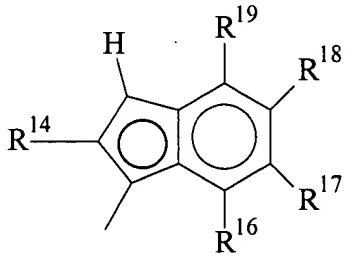
10. (previously presented) The metallocene according to claim 9, wherein G is a moiety of formula (IVb)



(IVb)

wherein R^{15}, R^{16}, R^{17}, and R^{18} are hydrogen, a C_1-C_{20}-alkyl, C_3-C_{20}-cycloalkyl, C_2-C_{20}-alkenyl, C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl, or C_7-C_{20}-arylalkyl radical, optionally containing heteroatoms belonging to groups 13-17 of the Periodic Table of the Elements, and any of two adjacent R^{15}, R^{16}, R^{17}, R^{18} can form a ring comprising 4 to 8 atoms optionally bearing substituents; R^{14} being a C_1-C_{20}-alkyl or C_6-C_{20}-aryl group.

11. (previously presented) The metallocene according to claim 9, wherein G is a moiety of formula (IVc)



(IVc)

wherein R^{14}, R^{16}, R^{17}, and R^{18} are hydrogen, a C_1-C_{20}-alkyl, C_3-C_{20}-cycloalkyl, C_2-C_{20}-alkenyl, C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl, or C_7-C_{20}-arylalkyl radical, optionally containing heteroatoms belonging to groups 13-17 of the Periodic Table of the Elements, and optionally any of two adjacent R^{16}, R^{17}, and R^{18} can form a ring comprising 4 to 8

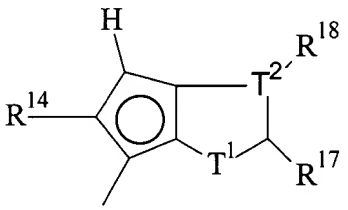
atoms optionally bearing substituents;

R^{19} is a C_1-C_{20}-alkyl or C_6-C_{20}-aryl group or forms with R^{18} a benzene ring optionally bearing substituents.

12. (previously presented) The metallocene according to claim 11, wherein R^{14} is a C_1-C_{20}-alkyl or C_6-C_{20}-aryl group.

13. (previously presented) The metallocene according to claim 11, wherein R^{16} is a C_1-C_{20}-alkyl or C_6-C_{20}-aryl.

14. (previously presented) The metallocene according to claim 8, wherein G is a moiety of formula (IVd):



(IVd)

wherein

T^1 is a sulfur atom or a CR^{16} group;

T^2 is a carbon atom or a nitrogen atom;

the 5 member ring formed by T^1 and T^2 has double bonds in any of the allowed positions, having an aromatic character;

with the proviso that if T^1 is a sulphur atom T^2 is not a nitrogen atom;

R^{14}, R^{17} and R^{18} which may be the same as or different from each other, are hydrogen, a C_1-C_{20}-alkyl, C_3-C_{20}-cycloalkyl, C_2-C_{20}-alkenyl, C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl, or C_7-C_{20}-arylalkyl radical, optionally containing heteroatoms belonging to groups 13-17 of the Periodic Table of the Elements and $R^{17}$and R^{18} can form a ring comprising 4 to 8 atoms optionally bearing substituents.

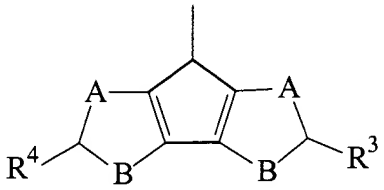
15. (previously presented) The metallocene according to claim 14 wherein T^2 is a carbon atom; T^1 is a sulphur atom and R^{14}, R^{17} and R^{18} equal to or different from each other are a C_1-C_{20}-alkyl, or C_6-C_{20}-aryl.

16. (currently amended) A ligand of formula (V):

LG'Z' (V)

wherein L is a divalent group bridging the moieties G and Z, selected from CR^1R^2, SiR^1R^2 or $(CR^1R^2)_2$, wherein R^1 and R^2, which may be the same as or different from each other, are hydrogen, a C_1-C_{20}-alkyl, C_3-C_{20}-cycloalkyl, C_2-C_{20}-alkenyl, C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl, or C_7-C_{20}-arylalkyl radical, optionally containing a heteroatom, and can form a ring having 3 to 8 atoms optionally bearing a substituent;

Z' is a moiety of formula (VI):



(VI)

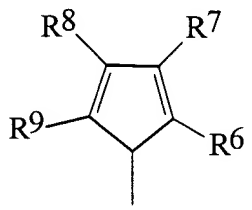
or its double bond isomers;

wherein the double bonds are in ~~any of the allowed positions~~an allowed position;

R^3 and R^4, which may be the same as or different from each other, are hydrogen, a C_1-C_{20}-alkyl, C_3-C_{20}-cycloalkyl, C_2-C_{20}-alkenyl, C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl, or C_7-C_{20}-arylalkyl radical, optionally containing a heteroatom;

A and B are sulfur (S), oxygen (O) or CR^5, wherein R^5 is hydrogen, a C_1-C_{20}-alkyl, C_3-C_{20}-cycloalkyl, C_2-C_{20}-alkenyl, C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl, or C_7-C_{20}-arylalkyl radical, optionally containing a heteroatom with the proviso that if A is S or O, then B is CR^5 or if B is S or O, then A is CR^5, and wherein either A or B is different than CR^5 and the rings containing A and B have a double bond in the allowed position;

G' is a moiety of formula (VII):



(VII)

or its double bond isomers;

wherein

R^6, R^7, R^8 and R^9, which may be the same as or different from each other, are hydrogen, a C_1-C_{20}-alkyl, C_3-C_{20}-cycloalkyl, C_2-C_{20}-alkenyl, C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl, or C_7-C_{20}-arylalkyl radical, optionally containing heteroatoms belonging to groups 13-17 of the Periodic Table of the Elements, and at least one of substituent pairs R^6 and R^7, and R^8 and R^9 can form a ring comprising from 3 to 8 atoms, optionally bearing substituents, with the proviso that R^7 is different from R^8 and when R^7 is a tert-butyl radical, R^8 is not hydrogen.

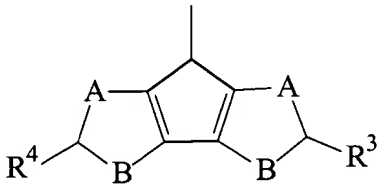
17. (currently amended) A process for the preparation of a ligand of formula (V):

LG'Z' (V)

wherein

L is a divalent group bridging the moieties G and Z, selected from CR^1R^2, SiR^1R^2 or $(CR^1R^2)_2$, wherein R^1 and R^2, which may be the same as or different from each other, are hydrogen, a C_1-C_{20}-alkyl, C_3-C_{20}-cycloalkyl, C_2-C_{20}-alkenyl, C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl, or C_7-C_{20}-arylalkyl radical, optionally containing a heteroatom, and can form a ring having 3 to 8 atoms optionally bearing a substituent;

Z' is a moiety of formula (VI):



(VI)

or its double bond isomers;

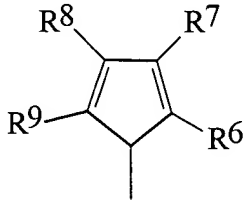
wherein the double bonds are in ~~any of the allowed positions~~an allowed position;

R^3 and R^4, which may be the same as or different from each other, are hydrogen, a C_1-C_{20}-alkyl, C_3-C_{20}-cycloalkyl, C_2-C_{20}-alkenyl, C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl, or C_7-C_{20}-arylalkyl radical, optionally containing a heteroatom;

A and B are sulfur (S), oxygen (O) or CR^5, wherein R^5 is hydrogen, a C_1-C_{20}-alkyl,

C_3-C_{20}-cycloalkyl, C_2-C_{20}-alkenyl, C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl, or C_7-C_{20}-arylalkyl radical, optionally containing a heteroatom with the proviso that if A is S or O, then B is CR^5 or if B is S or O, then A is CR^5, and wherein either A or B is different than CR^5 and the rings containing A and B have a double bond in the allowed position;

G' is a moiety of formula (VII):



(VII)

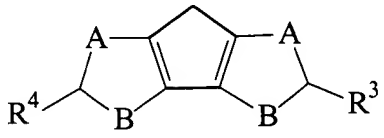
or its double bond isomers;

wherein

R^6, R^7, R^8 and R^9, which may be the same as or different from each other, are hydrogen, a C_1-C_{20}-alkyl, C_3-C_{20}-cycloalkyl, C_2-C_{20}-alkenyl, C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl, or C_7-C_{20}-arylalkyl radical, optionally containing heteroatoms belonging to groups 13-17 of the Periodic Table of the Elements, and at least one of substituent pairs R^6 and R^7, and R^8 and R^9 can form a ring comprising from 3 to 8 atoms, optionally bearing substituents, with the proviso that R^7 is different from R^8 and when R^7 is a tert-butyl radical, R^8 is not hydrogen;

comprising the following steps:

a) contacting a compound of the formula (VIII) with a base selected from the group consisting of metallic sodium and potassium, sodium and potassium hydroxide and an organic lithium compound, wherein the molar ratio between the compound of the formula (VIII) and said base is at least 1:1;



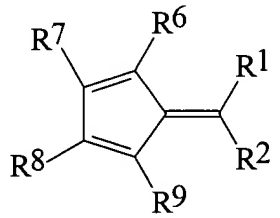
(VIII)

wherein

R^3 and R^4, which may be the same as or different from each other, are hydrogen, a C_1-C_{20}-alkyl, C_3-C_{20}-cycloalkyl, C_2-C_{20}-alkenyl, C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl, or C_7-C_{20}-arylalkyl radical, optionally containing a heteroatom;

A and B are sulfur (S), oxygen (O) or CR^5, wherein R^5 is hydrogen, a C_1-C_{20}-alkyl, C_3-C_{20}-cycloalkyl, C_2-C_{20}-alkenyl, C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl, or C_7-C_{20}-arylalkyl radical, optionally containing a heteroatom with the proviso that if A is S or O, then B is CR^5 or if B is S or O, then A is CR^5, and wherein either A or B is different than CR^5 the rings containing A and B have a double bond in the allowed position;

b) contacting the obtained anionic compounds of the formula from step a) with a compound of formula (IX):



(IX)

wherein

R^1 and R^2, which may be the same as or different from each other, are hydrogen, a C_1-C_{20}-alkyl, C_3-C_{20}-cycloalkyl, C_2-C_{20}-alkenyl, C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl, or C_7-C_{20}-arylalkyl radical, optionally containing a heteroatom, and can form a ring having 3 to 8 atoms optionally bearing a substituent;

R^6, R^7, R^8 and R^9, which may be the same as or different from each other, are hydrogen, a C_1-C_{20}-alkyl, C_3-C_{20}-cycloalkyl, C_2-C_{20}-alkenyl, C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl, or C_7-C_{20}-arylalkyl radical, optionally containing heteroatoms belonging to groups 13-17 of the Periodic Table of the Elements, and at least one of substituent pairs R^6 and R^7, and R^8 and R^9 can form a ring comprising from 3 to 8 atoms, optionally bearing substituents, with the proviso that R^7 is different from R^8 and when R^7 is a tert-butyl radical, R^8 is not hydrogen; and then

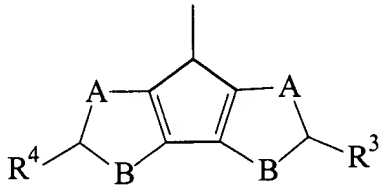
(c) treating the obtained product from step b) with a protonating agent.

18. (currently amended) A process for the preparation of a ligand of formula (V):

LG'Z' (V)

wherein L is a divalent group bridging the moieties G and Z, selected from CR^1R^2, SiR^1R^2 or $(CR^1R^2)_2$, wherein R^1 and R^2, which may be the same as or different from each other, are hydrogen, a C_1-C_{20}-alkyl, C_3-C_{20}-cycloalkyl, C_2-C_{20}-alkenyl, C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl, or C_7-C_{20}-arylalkyl radical, optionally containing a heteroatom, and can form a ring having 3 to 8 atoms optionally bearing a substituent;

Z' is a moiety of formula (VI):



(VI)

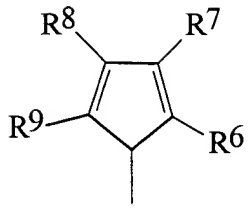
or its double bond isomers;

wherein the double bonds are in ~~any of the allowed positions~~an allowed position;

R^3 and R^4, which may be the same as or different from each other, are hydrogen, a C_1-C_{20}-alkyl, C_3-C_{20}-cycloalkyl, C_2-C_{20}-alkenyl, C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl, or C_7-C_{20}-arylalkyl radical, optionally containing a heteroatom;

A and B are sulfur (S), oxygen (O) or CR^5, wherein R^5 is hydrogen, a C_1-C_{20}-alkyl, C_3-C_{20}-cycloalkyl, C_2-C_{20}-alkenyl, C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl, or C_7-C_{20}-arylalkyl radical, optionally containing a heteroatom with the proviso that if A is S or O, then B is CR^5 or if B is S or O, then A is CR^5, and wherein either A or B is different than CR^5 and the rings containing A and B have a double bond in the allowed position;

G' is a moiety of formula (VII):



(VII)

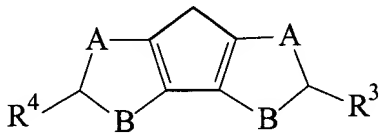
or its double bond isomers;

wherein

R^6, R^7, R^8 and R^9, which may be the same as or different from each other, are hydrogen, a C_1-C_{20}-alkyl, C_3-C_{20}-cycloalkyl, C_2-C_{20}-alkenyl, C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl, or C_7-C_{20}-arylalkyl radical, optionally containing heteroatoms belonging to groups 13-17 of the Periodic Table of the Elements, and at least one of substituent pairs R^6 and R^7, and R^8 and R^9 can form a ring comprising from 3 to 8 atoms, optionally bearing substituents, with the proviso that R^7 is different from R^8 and when R^7 is a tert-butyl radical, R^8 is not hydrogen;

comprising the following steps:

a) contacting a compound of the formula (VIII) with a base selected from the group consisting of metallic sodium and potassium, sodium and potassium hydroxide and an organic lithium compound, wherein the molar ratio between the compound of the formula (VIII) and said base is at least 1:1



(VIII)

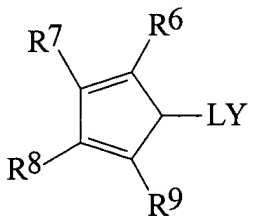
wherein

R^3 and R^4, which may be the same as or different from each other, are hydrogen, a C_1-C_{20}-alkyl, C_3-C_{20}-cycloalkyl, C_2-C_{20}-alkenyl, C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl, or C_7-C_{20}-arylalkyl radical, optionally containing a heteroatom;

A and B are sulfur (S), oxygen (O) or CR^5, wherein R^5 is hydrogen, a C_1-C_{20}-alkyl, C_3-C_{20}-cycloalkyl, C_2-C_{20}-alkenyl, C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl, or C_7-C_{20}-arylalkyl radical, optionally containing a heteroatom with the proviso that if A is S or O, then B is CR^5 or if B

is S or O, then A is CR^5, and wherein either A or B is different than CR^5 and the rings containing A and B have a double bond in the allowed position;

b) contacting the obtained anionic compounds from step a) with a compound of formula (IX):



(IX)

wherein Y is a halogen radical selected from the group consisting of chloride, bromide and iodide;

L is a divalent group bridging the moieties G and Z, selected from CR^1R^2, SiR^1R^2 or $(CR^1R^2)_2$, wherein R^1 and R^2, which may be the same as or different from each other, are hydrogen, a C_1-C_{20}-alkyl, C_3-C_{20}-cycloalkyl, C_2-C_{20}-alkenyl, C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl, or C_7-C_{20}-arylalkyl radical, optionally containing a heteroatom, and can form a ring having 3 to 8 atoms optionally bearing a substituent;

R^6, R^7, R^8 and R^9, which may be the same as or different from each other, are hydrogen, a C_1-C_{20}-alkyl, C_3-C_{20}-cycloalkyl, C_2-C_{20}-alkenyl, C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl, or C_7-C_{20}-arylalkyl radical, optionally containing heteroatoms belonging to groups 13-17 of the Periodic Table of the Elements, and at least one of substituent pairs R^6 and R^7, and R^8 and R^9 can form a ring comprising from 3 to 8 atoms, optionally bearing substituents, with the proviso that R^7 is different from R^8 and when R^7 is a tert-butyl radical, R^8 is not hydrogen.

19. (currently amended) A process for the preparation of a metallocene compound of general formula (I):

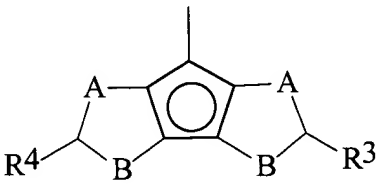
LGZMXp (I)

wherein

L is a divalent group bridging the moieties G and Z, selected from CR^1R^2, SiR^1R^2 or

$(CR^1R^2)_2$, wherein R^1 and R^2, which may be the same as or different from each other, are hydrogen, a C_1-C_{20}-alkyl, C_3-C_{20}-cycloalkyl, C_2-C_{20}-alkenyl, C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl, or C_7-C_{20}-arylalkyl radical, optionally containing a heteroatom, and can form a ring having 3 to 8 atoms optionally bearing a substituent;

Z is a moiety of formula (II):



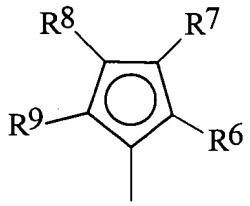
(II)

wherein

R^3 and R^4, which may be the same as or different from each other, are hydrogen, a C_1-C_{20}-alkyl, C_3-C_{20}-cycloalkyl, C_2-C_{20}-alkenyl, C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl, or C_7-C_{20}-arylalkyl radical, optionally containing a heteroatom;

A and B are sulfur (S), oxygen (O) or CR^5, wherein R^5 is hydrogen, a C_1-C_{20}-alkyl, C_3-C_{20}-cycloalkyl, C_2-C_{20}-alkenyl, C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl, or C_7-C_{20}-arylalkyl radical, optionally containing a heteroatom with the proviso that if A is S or O, then B is CR^5 or if B is S or O, then A is CR^5, and wherein either A or B is different than CR^5 and the rings containing A and B have a double bond in ~~the~~an allowed position;

G is a moiety of formula (III):



(III)

wherein

R^6, R^7, R^8 and R^9, which may be the same as or different from each other, are hydrogen, a C_1-C_{20}-alkyl, C_3-C_{20}-cycloalkyl, C_2-C_{20}-alkenyl, C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl, or C_7-C_{20}-arylalkyl radical, optionally containing heteroatoms belonging to groups 13-17 of the Periodic Table of the Elements, and at least one of substituent pairs R^6 and R^7, and R^8

and R^9 can form a ring comprising from 3 to 8 atoms, optionally bearing substituents, with the proviso that R^7 is different from R^8 and when R^7 is a tert-butyl radical, R^8 is not hydrogen;

M is an atom of a transition metal selected from those belonging to group 3, 4, 5, 6 or to the lanthanide or actinide groups in the Periodic Table of the Elements,

X, which may be the same or different, is a hydrogen atom, halogen atom, a group R^{10}, OR^{10}, OSO_2CF_3, $OCOR^{10}$, SR^{10}, NR^{10}_2 or PR^{10}_2, wherein the substituents R^{10} are hydrogen, a C_1-C_{20}-alkyl, C_3-C_{20}-cycloalkyl, C_2-C_{20}-alkenyl, C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl, or C_7-C_{20}-arylalkyl radical, optionally containing heteroatoms;

p is an integer of from 1 to 3, being equal to the oxidation state of the metal M minus 2;

with the proviso that said metallocene compound is different from:

isopropylidene (3-trimethylsilylcyclopentadienyl)(7-cyclopentaditiophene)zirconium dichloride, dimethylsilanediyl (3-trimethylsilylcyclopentadienyl)(7-cyclopentaditiophene)zirconium dichloride, isopropylidene (3-ethylcyclopentadienyl)(7-cyclopentaditiophene)zirconium dichloride, dimethylsilanediyl (3-ethylcyclopentadienyl)(7-cyclopentaditiophene)zirconium dichloride, isopropylidene (3-n-butylcyclopentadienyl)(7-cyclopentaditiophene)zirconium dichloride, dimethylsilanediyl (3-n-butylcyclopentadienyl)(7-cyclopentaditiophene)zirconium dichloride, isopropylidene (3-methylcyclopentadienyl)(7-cyclopentaditiophene)zirconium dichloride, dimethylsilanediyl (3-methylcyclopentadienyl)(7-cyclopentaditiophene)zirconium dichloride, isopropylidene (3-i-propylcyclopentadienyl)(7-cyclopentaditiophene)zirconium dichloride and dimethylsilanediyl (3-i-propylcyclopentadienyl)(7-cyclopentaditiophene)zirconium dichloride;

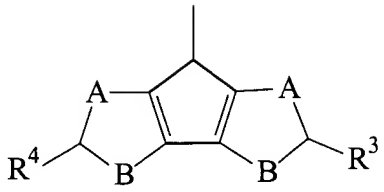
said process comprising contacting the ligand of general formula (V)

$$LG'Z' \qquad (V)$$

wherein L is a divalent group bridging the moieties G and Z, selected from CR^1R^2, SiR^1R^2 or $(CR^1R^2)_2$, wherein R^1 and R^2, which may be the same as or different from each other, are hydrogen, a C_1-C_{20}-alkyl, C_3-C_{20}-cycloalkyl, C_2-C_{20}-alkenyl, C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl, or C_7-C_{20}-arylalkyl radical, optionally containing a heteroatom, and can form a ring having 3 to 8

atoms optionally bearing a substituent;

Z' is a moiety of formula (VI):



(VI)

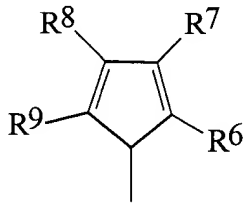
or its double bond isomers;

wherein the double bonds are in any of the allowed positions;

R^3 and R^4, which may be the same as or different from each other, are hydrogen, a C_1-C_{20}-alkyl, C_3-C_{20}-cycloalkyl, C_2-C_{20}-alkenyl, C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl, or C_7-C_{20}-arylalkyl radical, optionally containing a heteroatom;

A and B are sulfur (S), oxygen (O) or CR^5, wherein R^5 is hydrogen, a C_1-C_{20}-alkyl, C_3-C_{20}-cycloalkyl, C_2-C_{20}-alkenyl, C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl, or C_7-C_{20}-arylalkyl radical, optionally containing a heteroatom with the proviso that if A is S or O, then B is CR^5 or if B is S or O, then A is CR^5, and wherein either A or B is different than CR^5 and the rings containing A and B have a double bond in the allowed position;

G' is a moiety of formula (VII):



(VII)

or its double bond isomers;

wherein R^6, R^7, R^8 and R^9, which may be the same as or different from each other, are hydrogen, a C_1-C_{20}-alkyl, C_3-C_{20}-cycloalkyl, C_2-C_{20}-alkenyl, C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl, or C_7-C_{20}-arylalkyl radical, optionally containing heteroatoms belonging to groups 13-17 of the Periodic Table of the Elements, and at least one of substituent pairs R^6 and R^7, and R^8 and R^9 being

capable of forming a ring comprising from 3 to 8 atoms, optionally having substituents, with the proviso that R^7 is different from R^8 and when R^7 is a tert-butyl radical, R^8 is not hydrogen; with a base capable of forming a corresponding dianionic compound and thereafter with a compound of general formula MX_{p+2}, wherein

M is an atom of a transition metal selected from those belonging to group 3, 4, 5, 6 or to the lanthanide or actinide groups in the Periodic Table of the Elements,

X, which may be the same or different, is a hydrogen atom, halogen atom, a group R^{10}, OR^{10}, OSO_2CF_3, $OCOR^{10}$, SR^{10}, NR^{10}_2 or PR^{10}_2, wherein the substituents R^{10} are hydrogen, a C_1-C_{20}-alkyl, C_3-C_{20}-cycloalkyl, C_2-C_{20}-alkenyl, C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl, or C_7-C_{20}-arylalkyl radical, optionally containing heteroatoms; and

p is an integer of from 1 to 3, being equal to the oxidation state of the metal M minus 2.

20. (currently amended) A catalyst obtained by contacting:

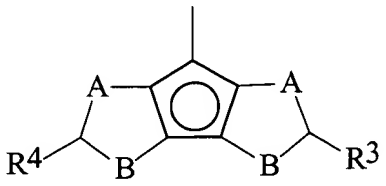
(A) a metallocene compound of formula (I)

$$LGZMX_p \qquad (I)$$

wherein

L is a divalent group bridging the moieties G and Z, selected from CR^1R^2, SiR^1R^2 or $(CR^1R^2)_2$, wherein R^1 and R^2, which may be the same as or different from each other, are hydrogen, a C_1-C_{20}-alkyl, C_3-C_{20}-cycloalkyl, C_2-C_{20}-alkenyl, C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl, or C_7-C_{20}-arylalkyl radical, optionally containing a heteroatom, and can form a ring having 3 to 8 atoms optionally bearing a substituent;

Z is a moiety of formula (II):



(II)

wherein

R^3 and R^4, which may be the same as or different from each other, are hydrogen, a C_1-C_{20}-alkyl, C_3-C_{20}-cycloalkyl, C_2-C_{20}-alkenyl, C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl, or C_7-C_{20}-arylalkyl radical, optionally containing a heteroatom;

A and B are sulfur (S), oxygen (O) or CR^5, wherein R^5 is hydrogen, a C_1-C_{20}-alkyl,

C_3-C_{20}-cycloalkyl, C_2-C_{20}-alkenyl, C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl, or C_7-C_{20}-arylalkyl radical, optionally containing a heteroatom with the proviso that if A is S or O, then B is CR^5 or if B is S or O, then A is CR^5, and wherein either A or B is different than CR^5 and the rings containing A and B have a double bond in ~~the~~an allowed position;

M is an atom of a transition metal selected from those belonging to group 3, 4, 5, 6 or to the lanthanide or actinide groups in the Periodic Table of the Elements,

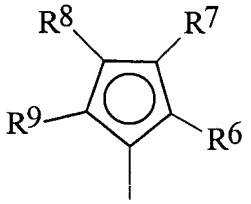
X, which may be the same or different, is a hydrogen atom, halogen atom, a group R^{10}, OR^{10}, OSO_2CF_3, $OCOR^{10}$, SR^{10}, NR^{10}_2 or PR^{10}_2, wherein the substituents R^{10} are hydrogen, a C_1-C_{20}-alkyl, C_3-C_{20}-cycloalkyl, C_2-C_{20}-alkenyl, C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl, or C_7-C_{20}-arylalkyl radical, optionally containing heteroatoms;

p is an integer of from 1 to 3, being equal to the oxidation state of the metal M minus 2;

with the proviso that said metallocene compound is different from:

isopropylidene (3-trimethylsilylcyclopentadienyl)(7-cyclopentaditiophene)zirconium dichloride, dimethylsilanediyl (3-trimethylsilylcyclopentadienyl)(7-cyclopentaditiophene)zirconium dichloride, isopropylidene (3-ethylcyclopentadienyl)(7-cyclopentaditiophene)zirconium dichloride, dimethylsilanediyl (3-ethylcyclopentadienyl)(7-cyclopentaditiophene)zirconium dichloride, isopropylidene (3-n-butylcyclopentadienyl)(7-cyclopentaditiophene)zirconium dichloride, dimethylsilanediyl (3-n-butylcyclopentadienyl)(7-cyclopentaditiophene)zirconium dichloride, isopropylidene (3-methylcyclopentadienyl)(7-cyclopentaditiophene)zirconium dichloride, dimethylsilanediyl (3-methylcyclopentadienyl)(7-cyclopentaditiophene)zirconium dichloride, isopropylidene (3-i-propylcyclopentadienyl)(7-cyclopentaditiophene)zirconium dichloride and dimethylsilanediyl (3-i-propylcyclopentadienyl)(7-cyclopentaditiophene)zirconium dichloride;

and G is a moiety of formula (III):

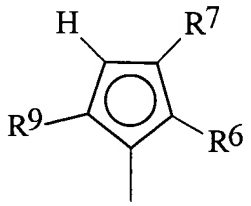


(III)

wherein R^6, R^7, R^8 and R^9, which may be the same as or different from each other, are hydrogen, a C_1-C_{20}-alkyl, C_3-C_{20}-cycloalkyl, C_2-C_{20}-alkenyl, C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl, or C_7-C_{20}-arylalkyl radical, optionally containing heteroatoms belonging to groups 13-17 of the Periodic Table of the Elements, at least one of substituent pairs R^6 and R^7, and R^8 and R^9 can form a ring comprising from 3 to 8 atoms, optionally bearing substituents; with the proviso that R^7 is different from R^8 and when R^7 is a tertbutyl radical R^8 is not hydrogen; and

(B) at least one of an alumoxane and a compound capable of forming an alkyl metallocene.

21. (previously presented) The catalyst according to claim 20 wherein in the metallocene compound of formula (I) G is a moiety of formula (IIIa)



(IIIa)

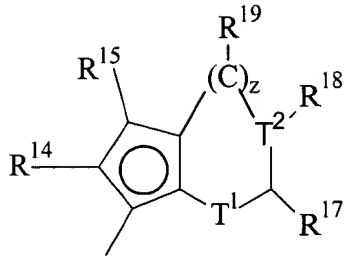
wherein

R^6 and R^9 equal to or different from each other, are hydrogen, a C_1-C_{20}-alkyl, C_3-C_{20}-cycloalkyl, C_2-C_{20}-alkenyl, C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl, or C_7-C_{20}-arylalkyl radical, optionally containing heteroatoms belonging to groups 13-17 of the Periodic Table of the Elements

R^7 is a C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl or a $QR^{11}R^{12}R^{13}$ group, wherein Q is C, Si, or Ge;

R^{11}, R^{12} and R^{13}, which may be the same as or different from each other, are hydrogen, C_1-C_{20}-alkyl, C_3-C_{20}-cycloalkyl, C_2-C_{20}-alkenyl, C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl, or C_7-C_{20}-arylalkyl radicals, optionally containing a heteroatom, with the proviso that when Q is a carbon atom, at least one of R^{11}, R^{12} and R^{13} is a hydrogen atom,

or formula (IV)



(IV)

wherein

T^1 is a sulfur atom or a CR^{16} group;

T^2 is a carbon atom or a nitrogen atom;

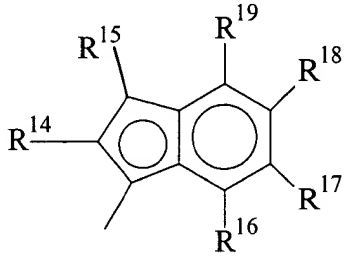
z is 1 or 0;

the ring containing T^1 and T^2 has double bonds in the allowed position;

with the proviso that if z is 1, T^1 is a CR^{16} group and T^2 is a carbon atom and the ring formed is a benzene ring; and if z is 0, T^2 bonds directly the cyclopentadienyl ring, the 5 membered ring formed has double bond in any of the allowed positions having an aromatic character and T^1 and T^2 are not at the same time, a sulfur atom and a nitrogen atom.

R^{14}, R^{15}, R^{16}, R^{17}, R^{18} and R^{19}, same or different, are hydrogen, a C_1-C_{20}-alkyl, C_3-C_{20}-cycloalkyl, C_2-C_{20}-alkenyl, C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl, or C_7-C_{20}-arylalkyl radical, optionally containing heteroatoms belonging to groups 13-17 of the Periodic Table of the Elements, any of two adjacent R^{14}, R^{15}, R^{16}, R^{17}, R^{18} and R^{19} can form a ring comprising 4 to 8 atoms optionally bearing substituents.

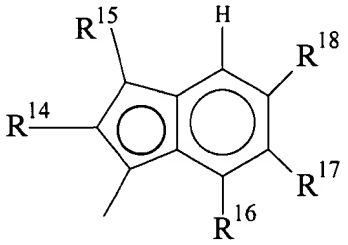
22. (previously presented) The catalyst according to claim 21 wherein in the metallocene compound of formula (I) G is a moiety selected from the compound of formula (IVa),



(IVa)

wherein R^{14}, R^{15}, R^{16}, R^{17}, R^{18} and R^{19}, which may be the same as or different from each other, are hydrogen, a C_1-C_{20}-alkyl, C_3-C_{20}-cycloalkyl, C_2-C_{20}-alkenyl, C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl, or C_7-C_{20}-arylalkyl radical, optionally containing heteroatoms, and any of two adjacent R^{14}, R^{15}, R^{16}, R^{17}, R^{18} and R^{19} can form a ring comprising 4 to 8 atoms optionally bearing substituents and the benzene ring optionally being perhydrated,

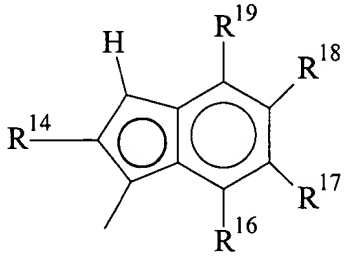
formula (IVb),



(IVb)

wherein R^{15}, R^{16}, R^{17}, and R^{18} are hydrogen, a C_1-C_{20}-alkyl, C_3-C_{20}-cycloalkyl, C_2-C_{20}-alkenyl, C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl, or C_7-C_{20}-arylalkyl radical, optionally containing heteroatoms belonging to groups 13-17 of the Periodic Table of the Elements, and any of two adjacent R^{14}, R^{15}, R^{16}, R^{17}, R^{18} can form a ring comprising 4 to 8 atoms optionally bearing substituents; R^{14} being a C_1-C_{20}-alkyl or C_6-C_{20}-aryl group,

formula (IVc),



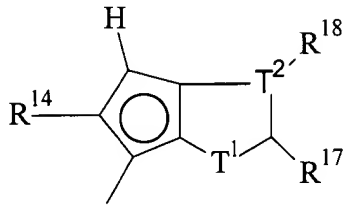
(IVc)

wherein R^{14}, R^{16}, R^{17}, and R^{18} are hydrogen, a C_1-C_{20}-alkyl, C_3-C_{20}-cycloalkyl, C_2-C_{20}-alkenyl, C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl, or C_7-C_{20}-arylalkyl radical, optionally containing heteroatoms belonging to groups 13-17 of the Periodic Table of the Elements, and optionally any of two adjacent R^{14}, R^{16}, R^{17}, R^{18} and R^{19} can form a ring comprising 4 to 8 atoms optionally bearing

substituents;

R^{19} is a C_1-C_{20}-alkyl or C_6-C_{20}-aryl group or forms with R^{18} a benzene ring optionally having substituents.

or formula (IVd)



(IVd)

wherein

T^1 is a sulfur atom or a CR^{16} group;

T^2 is a carbon atom or a nitrogen atom;

the 5 member ring formed by T^1 and T^2 has double bonds in any of the allowed positions, having an aromatic character;

with the proviso that if T^1 is a sulphur atom T^2 is not a nitrogen atom;

R^{14}, R^{17} and R^{18} which may be the same as or different from each other, are hydrogen, a C_1-C_{20}-alkyl, C_3-C_{20}-cycloalkyl, C_2-C_{20}-alkenyl, C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl, or C_7-C_{20}-arylalkyl radical, optionally containing heteroatoms belonging to groups 13-17 of the Periodic Table of the Elements and $R^{17}$and R^{18} can form a ring comprising 4 to 8 atoms optionally bearing substituents.

23. (Previously presented) The catalyst according to claim 20, wherein said alumoxane is selected from methylalumoxane (MAO), isobutylalumoxane (TIBAO) or 2,4,4-trimethyl-pentylalumoxane (TIOAO).

24. (Previously presented) The catalyst according to claim 20, wherein the compound capable of forming a metallocene alkyl cation is a compound of formula D^+E^-, wherein D^+ is a Brønsted acid, able to donate a proton and to react irreversibly with a substituent X of the metallocene of formula (I) and E^- is a compatible anion, which is able to stabilize the

active catalytic species originating from the reaction of the two compounds, and which is sufficiently labile to be able to be removed by an olefinic monomer.

25. (currently amended) A process for the preparation of a polymer of alpha-olefins comprising contacting one or more alpha-olefins under polymerization conditions with a catalyst obtained by contacting:

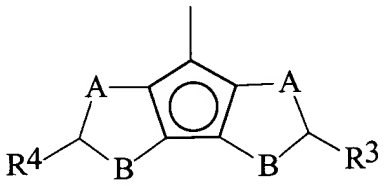
(A) a metallocene compound of formula (I)

$$LGZMX_p \qquad (I)$$

wherein

L is a divalent group bridging the moieties G and Z, selected from CR^1R^2, SiR^1R^2 or $(CR^1R^2)_2$, wherein R^1 and R^2, which may be the same as or different from each other, are hydrogen, a C_1-C_{20}-alkyl, C_3-C_{20}-cycloalkyl, C_2-C_{20}-alkenyl, C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl, or C_7-C_{20}-arylalkyl radical, optionally containing a heteroatom, and can form a ring having 3 to 8 atoms optionally bearing a substituent;

Z is a moiety of formula (II):



(II)

wherein

R^3 and R^4, which may be the same as or different from each other, are hydrogen, a C_1-C_{20}-alkyl, C_3-C_{20}-cycloalkyl, C_2-C_{20}-alkenyl, C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl, or C_7-C_{20}-arylalkyl radical, optionally containing a heteroatom;

A and B are sulfur (S), oxygen (O) or CR^5, wherein R^5 is hydrogen, a C_1-C_{20}-alkyl, C_3-C_{20}-cycloalkyl, C_2-C_{20}-alkenyl, C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl, or C_7-C_{20}-arylalkyl radical, optionally containing a heteroatom with the proviso that if A is S or O, then B is CR^5 or if B is S or O, then A is CR^5, and wherein either A or B is different than CR^5 and the rings containing A and B have a double bond in ~~the~~an allowed position;

M is an atom of a transition metal selected from those belonging to group 3, 4, 5, 6 or to the lanthanide or actinide groups in the Periodic Table of the Elements,

X, which may be the same or different, is a hydrogen atom, halogen atom, a group R^{10},

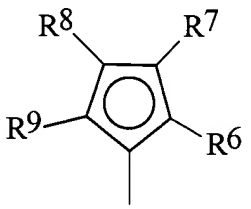
OR^{10}, OSO_2CF_3, $OCOR^{10}$, SR^{10}, NR^{10}_2 or PR^{10}_2, wherein the substituents R^{10} are hydrogen, a C_1-C_{20}-alkyl, C_3-C_{20}-cycloalkyl, C_2-C_{20}-alkenyl, C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl, or C_7-C_{20}-arylalkyl radical, optionally containing heteroatoms;

p is an integer of from 1 to 3, being equal to the oxidation state of the metal M minus 2;

with the proviso that said metallocene compound is different from:

isopropylidene (3-trimethylsilylcyclopentadienyl)(7-cyclopentaditiophene)zirconium dichloride, dimethylsilanediyl (3-trimethylsilylcyclopentadienyl)(7-cyclopentaditiophene)zirconium dichloride, isopropylidene (3-ethylcyclopentadienyl)(7-cyclopentaditiophene)zirconium dichloride, dimethylsilanediyl (3-ethylcyclopentadienyl)(7-cyclopentaditiophene)zirconium dichloride, isopropylidene (3-n-butylcyclopentadienyl)(7-cyclopentaditiophene)zirconium dichloride, dimethylsilanediyl (3-n-butylcyclopentadienyl)(7-cyclopentaditiophene)zirconium dichloride, isopropylidene (3-methylcyclopentadienyl)(7-cyclopentaditiophene)zirconium dichloride, dimethylsilanediyl (3-methylcyclopentadienyl)(7-cyclopentaditiophene)zirconium dichloride, isopropylidene (3-i-propylcyclopentadienyl)(7-cyclopentaditiophene)zirconium dichloride and dimethylsilanediyl (3-i-propylcyclopentadienyl)(7-cyclopentaditiophene)zirconium dichloride;

and G is a moiety of formula (III):



(III)

wherein R^6, R^7, R^8 and R^9, which may be the same as or different from each other, are hydrogen, a C_1-C_{20}-alkyl, C_3-C_{20}-cycloalkyl, C_2-C_{20}-alkenyl, C_6-C_{20}-aryl, C_7-C_{20}-alkylaryl, or C_7-C_{20}-arylalkyl radical, optionally containing heteroatoms belonging to groups 13-17 of the Periodic Table of the Elements, at least one of substituent pairs R^6 and R^7, and R^8 and R^9 can form a ring comprising from 3 to 8 atoms, optionally bearing substituents; with the proviso that R^7 is different from R^8 and when R^7 is a tertbutyl radical R^8 is not hydrogen; and

(B) at least one of an alumoxane and a compound capable of forming an alkyl metallocene.

26. (original) The process according to claim 25 for the preparation of homo- and copolymers of propylene.

27. (previously presented) The process according to claim 26 wherein the process is carried out in the presence of an alpha-olefin selected from 1-butene, 1-pentene, 1-hexene, 4-methyl-1-pentene, 1-octene, 1-decene or 1-dodecene.

28. (original) The process according to claim 25 for the preparation of homo- and copolymers of ethylene.

29. (previously presented) The process according to claim 28, wherein the process is carried out in the presence of an olefin selected from propylene, 1-butene, 1-pentene, 4-methyl-1-pentene, 1-hexene, 1-octene, 4,6-dimethyl-1-heptene, 1-decene, 1-dodecene, 1-tetradecene, 1-hexadecene, 1-octadecene, 1-eicosene, allylcyclohexane, cyclopentene, cyclohexene and norbornene, 1,5-hexadiene, 1-6-heptadiene, 2-methyl-1,5-hexadiene, trans 1,4-hexadiene, cis 1,4-hexadiene, 6-methyl-1,5-heptadiene, 3,7-dimethyl-1,6-octadiene, 11-methyl-1,10-dodecadiene, or 5-ethylidene-2-norbornene .

30. (previously presented) The process according to claim 25 wherein the catalyst is supported on an inert carrier.

31. (previously presented) The process according to claim 25 characterized in that it is carried out in gas phase.

32. (previously presented) A propylene homopolymer having the following characteristics:
- triads (mm) satisfy the relation $55 < mm < 85$;
- melting enthalpy (ΔH) of between 5 J/g and 70 J/g.
- Haze (ASTM 2457) from 15% to 30%;
- Gloss (60°C) (ASTM 2457) from 60% to 95%;
- Tensile modulus (ASTM D4065) from 1000 MPa to 200 MPa;
- Elongation at break (ASTM D4065) from 300% to 900%;
- Strength at break (ASTM D638) from 10% to 40%.

33. (original) A propylene copolymer containing from 0.1 to 30% by moles of units deriving from an olefin of formula $CH_2=CHR'$, R' being hydrogen, a C_2-C_{20}-alkyl or a C_6-C_{12}-aryl group, said propylene copolymer having the following characteristics:
- melting enthalpy < 70 J/g;

- triads (mm) satisfy the relation: $30 < mm < 85$.

34. (original) The propylene copolymer according to claim 33 wherein the olefin of formula CH_2=CHR' is ethylene.

35. (previously presented) The metallocene compound according to claim 1 wherein at least one of R^3 and R^4 is different than hydrogen.